

DIRECTIONS
FOR
WARM AND COLD
SEA-BATHING;
WITH
OBSERVATIONS
ON THEIR
APPLICATION AND EFFECTS
IN
DIFFERENT DISEASES.

BY THOMAS REID, M. D. F. A. S.

VERUMQUE EST, AD IPSAM CURANDI RATIONEM NIHIL
PLUS CONFERRE, QUAM EXPERIENTIAM.

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1795.

DIRECTIONS

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SEA-BATHING

1881

OBSEVATIONS

ON THE

ANNUAL ELECTIONS

1881

AT THE ANNUAL MEETING

OF THE BRITISH MUSEUM



London:

INTRODUCTION.
TO
HENRY DUNCOMBE, Esq.

**ONE OF THE REPRESENTATIVES IN PARLIAMENT, FOR
THE COUNTY OF YORK:**

**THESE SHEETS, AS A SLIGHT TESTIMONY OF
ESTEEM AND REGARD, FOR HIS PUBLIC AND PRIVATE
CHARACTER; ARE RESPECTFULLY INSCRIBED,**

BY HIS FAITHFUL, AND

OBLIGED HUMBLE SERVANT,

THE AUTHOR.

**NEWMAN STREET,
MAY 31, 1795.**

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Лицо моя на глян

то уходит вперед за пределы

ставив ся. Сюжет си лот. ¹ Садко си върши.

CHURCH OF THE HOLY TRINITY, ST. JOHN'S, NEWFOUNDLAND

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INTRODUCTION.

HAVING passed ten successive summers on the sea coast; at a bathing-place^a much frequented by company in the season: And in that time, seeing bad effects very frequently succeed to bathing in the sea, without proper precaution; I have imagined it might be of some use, to warn the public; by laying before them such observations as have occurred to me upon the spot; and from cases under my immediate notice. To the profession, these hints may afford some degree of informa-

^a Ramsgate. See Appendix

tion; as the major part cannot, from their local situation, be supposed to have had an opportunity, of seeing this practice; and it is well known, that in medicine, as well as in politics; what shall appear theoretically right, may prove practically wrong. Much of novelty they are not to expect; but I presume, something may be seen, on the application of the warm sea-water bath, in œdematos affections and incipient dropsy; which, as far as my reading or experience have gone; I do not recollect having been directed in the cure of that class of diseases.

The cases in which I have had an opportunity of using it with this intention, are not indeed numerous; but its effects are distinctly marked; and I have well-founded hopes, that in future trials, the

warm

warm sea-water bath, will be found a powerful auxiliary to other remedies.

I shall endeavour to collect under one head, such directions as are necessary for those who bathe in the sea, on account of general impaired health; whereby, I flatter myself, they will not only avoid any bad consequences that might follow, but secure a certain and permanent benefit. I shall then offer such observations, as have arisen from my own practice; in the application of warm and cold bathing, to the different diseases, for the relief of which, they are usually recommended.

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DIRECTIONS
FOR
WARM AND COLD
SEA-BATHING.

SECTION I.

GENERAL DIRECTIONS FOR COLD BATHING.

WHENEVER a remedy is used indiscriminately, it must of necessity, very frequently be used improperly. This observation can in no instance be so justly applied, as to sea-bathing. In this age, of which dissipation and luxury, are prominent features, it is become so much, and so generally the fashion, for all ranks of people, to make excursions in the summer to the sea side, that every place is crowded

crowded during the season. Unfortunately for many, a general idea has taken possession of the public mind, that if bathing does no good it cannot do harm. This is certainly not a fact; cold bathing produces a powerful impression on the surface of the body, and from thence on the internal parts; and although in many diseases, a very efficacious remedy, yet when applied without proper precaution, or preparation, frequently occasions dangerous, and sometimes, fatal consequences. Since it has become the custom for people in general to read medical books, written expressly for the purpose; every one thinks they are qualified, not only to prescribe for themselves, but for all their acquaintance; and they will be much offended if not attended to, in preference to any other, however regular. I am very ready to allow, that in the hands of many, such books may be of use, in directing simple medicines, till proper advice can be procured; but I must at the same time be allowed to declare my opinion, that such studies have been

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the source of infinite harm to the community at large: It is putting active agents into the hands of those who are not competent to their application. That this is no hasty, or inconsiderate assertion, I appeal to every medical man's experience.

This being the case, we are not to be surprised, if people go into the sea, without advice, without preparation. How often have I seen young persons in high health, after a few times bathing, become pale, lose their strength and appetite, or seized with fevers, that have continued long, and in some instances terminated fatally!

The action of cold water on the human body, when frequently applied, may be compared to labour; or any other debilitating cause; and is in the first instance, similar, in a small degree, to the rigor, that is the first symptom of fever;

* Cullen's First Lines of Practise, § 40.

producing a spasm on the extreme vessels. If there is a sufficient degree of strength in the system, to resist the shock of the water, and occasion a re-action, a general warm glow will ensue. This re-action, rouses the principles of life, or what the learned Professor quoted before terms, the **VIS MEDICATRIX NATURÆ**, overcomes the spasm on the extreme vessels, and increases the energy of the constitution, of that principle, which in all matter animate and inanimate, is continually labouring for its own preservation. In this manner, I am disposed to think the benefit is produced by cold bathing; and not, as has commonly been supposed, from increasing the tone or spring of the muscular fibre, by the mechanical action of the water. Were the good effects produced in this way, they would uniformly follow the application, independent of the state of the *vis vitæ*; but experience proves the contrary; and we often see persons persist in bathing, till their strength is so much diminished, that they can scarcely walk up from the machine.

When

When

When the warm glow^{*} immediately succeeds the immersion, when the spirits are light, and the mind cheerful, the bathing will have a salutary effect. But on the contrary, if after coming out of the water, they continue cold, chilly, shivering, pale, more or less languid, the body evidently shrunk, and this after several trials, they should desist; nor again attempt bathing, till the constitution, by proper remedies, is in a condition to bear the action of the water, and produce the succeeding warmth, so essentially necessary. If the effect of cold water, applied to the surface of the body, is similar to the first attack of fever, producing in some degree, a similar re-action of the heart and internal parts; it will be evident how necessary it is, to apply this remedy with caution, and not without being previously ascertained, whether it is adapted to the constitution, strength, or particular disease.

* I am not sure this term does not express more than I mean, a general flush of heat all over the body, enlivening the countenance, and continuing some time.

Persons of every age, and in almost every complaint, should, previous to their bathing in cold water, take one or two doses of such purging medicine, as may be proper in their particular circumstance; and if their stomach is disordered, or their tongue not clean, a vomit should even precede the cathartic; it will have the best effect, if taken in the morning fasting. These evacuations are indispensably necessary, not only in guarding against fever and other disagreeable consequences; but by emptying the first passages, the constitution being relieved from a load, more or less oppressing the *vis vitæ*, is enabled to produce the re-action, and thereby ensure the benefit expected from bathing.

If the person is not very weak, nor greatly reduced in strength, and the distance from the water not great, they had better walk than use a carriage; as there should always be before immersion, rather an increase of warmth, and the circulation somewhat quickened, by which the re-action of the system becomes more certain.

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The head should always be first wetted, and after one dip, come out of the water as quick as possible. It is not necessary to be very solicitous in drying the skin after bathing, as being wet with salt-water, does not occasion indisposition, as fresh water generally does, probably from the different actions on the extreme vessels; even the dew that usually falls very heavy in the evening, is not attended with any bad consequence to those who have been exposed to it. I have not observed any inconvenience arising from using varnished silk caps, but where it can be avoided, it is better in every respect. After bathing, moderate exercise should be taken, carefully avoiding whatever may fatigue the body, or exhaust the spirits, as that would defeat the intention.

The general custom of bathing early in the morning is certainly right, and should not be given up without sufficient reason; but I observe that the delicate and weakly, especially ladies who have been accustomed to lie late in bed,

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are soon fatigued upon getting up so much before their usual time: And this is increased by waiting more or less for the machine, as every one, without distinction, bathes in the order their names are put down, and for which deputies are not allowed. Such persons will do well in taking a light breakfast, and two hours after, they may go into the sea, with ease and safety.^a

^a As this may be done by 10 o'clock, the water will not have acquired an increase of heat from the sun, even in the warmest part of our summer. Indeed, it is very rare in this climate, that the water of the sea is at all affected by his rays. From a long course of experiments in August, September, and October, 1788, I found the temperature of the Sea-Water, at the depth of four or five feet, taken between seven and nine in the morning, to be very near the temperature of the air in the shade; differing about two degrees either way; but uniformly colder when the wind was easterly. On the 30th of August the thermometer, in the shade, stood at 58, in the sea at 60, wind west.—The same day, at 11 in the Downs, at the depth of 30 feet, the thermometer was only at 60.

In AUGUST, The RANGE OF THE THERMOMETER, WAS
In the shade, 58 to 66. Med. 62. In the sea, 60 to 64. Med. 62.

In SEPTEMBER,

In the shade, 56 to 67. Med. 61 $\frac{1}{2}$. In the sea, 54 to 65. Med. 59 $\frac{1}{2}$.

In OCTOBER,

In the shade, 52 to 62. Med. 57. In the sea, 52 to 58. Med. 55.

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The usual manner of bathing is, to be dipped three times, and to go in two mornings and miss one, both which I think improper. It is the sudden shock on the body that rouses the energy of the system; a repetition cannot increase, and is very likely to weaken the effect of the first impression. In proportion as any action on the body is repeated, in proportion it becomes familiar, and the effects gradually diminish, it being a principle inherent in our nature, to become familiar with any place or circumstance, “*usus frequens omnium magistrorum precepta superat.*” In like manner bathing two days in three, if it does not immediately disagree, will diminish the influence of the water upon the system, thereby depriving them of that full success, they would enjoy if used more moderately. I think bathing once in two days, and plunging in only once, is as often as is commonly attended with benefit.

When I said it was right to go into the sea with some degree of quickened circulation

ulation, and increased warmth, I must not be understood to mean, that those who are heated by previous fatigue or intemperance should bath; in such it would be very hazardous, and by no means to be attempted.

People of all ages, and in every condition of health, are accustomed when at the sea side to drink salt water in the morning, under the idea of its being a sweetener of the blood, and an antiscorbutic. In my opinion salt water taken internally, possesses no quality superior to any other purgative, taken in such quantity as to produce similar operation. It is a nauseous, disagreeable potion, often very rough in its passage, and when it does not operate, always heating and disordering the body; especially in children, who I daily see tormented in this way from the very best motive; and I much wish, that I could use any argument to prevent the sufferings of my little friends. If it must be swallowed, any thing to the contrary notwithstanding,

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the addition of an equal quantity of warm milk softens the taste, and frequently prevents its disagreeing with the bowels. On the days of bathing, neither salt water nor any other purgative should be taken; because purging universally weakens the powers of the system, which cold bathing is intended to strengthen. As an antiscorbutic, or a sweetener of the blood, I can only say, I have never seen any good produced by taking salt water with this view. How far the circulating fluids can be affected by, or be the cause producing disease, I shall not consider here, having given my sentiments in a former work.^a

The air on the sea is purer, and more free from noxious effluvia or exhalations, than on land. This is proved beyond a possibility of doubt, by seafaring people, with proper precaution, suffering less from disease, and by a late celebrated and lamented Circumnavigator, having lost fewer men, respect-

^a *Essay on Phthisis Pulmonalis, 2d Edition.*

ing his numbers, than would have died during the same period in the healthiest spot in Europe. The air on the sea coast very eminently partakes of this quality, provided the soil is dry, free from marshes and stagnant water. My observations have a reference to the place where they were made², than which there is not an healthier spot in England : The soil being supported almost intirely by chalk, and consequently rather meliorating than injuring the atmosphere. It must at the same time be noted, that the easterly winds which in the spring are as regular as the trade-winds between the Tropics, blow there with unabated sharpness; passing over a large expanse of water, they do not meet any thing capable of abating their natural keenness. These winds being exceedingly prejudicial to persons labouring under pulmonary complaints, they should not visit that coast before the beginning, or even middle of July ; for I have many seasons, observed the north-

² Isle of Thanet : See Appendix.

east wind continue more or less, the whole of the month of June.

In delicate nervous constitutions, where cold bathing, from various causes, cannot be used; much benefit will be received in walking and riding in the sea air, always carefully guarding against fatigue.

A late author has observed "that sea-bathing derives its efficacy more from the coldness than the saltiness of the water; and fresh water is colder than salt water,"^a consequently should have the preference. It would be very difficult to demonstrate which was most effectual in restoring health, being impossible to determine how far the influence of the sea air went; and if the experiment was made at the sea side, where shall we find two cases exactly alike, or the same person in similar circumstances at different periods? Independent of the

^a Medical Cautions, &c. I. M. Adair, M.D. 1787.

evident good effects of sea air, I do not hesitate giving a decided opinion in favor of salt water; because from the salt and other matter contained in sea water, it is probable, a very different impression is made upon the nerves and extreme vessels on the surface of the body, than what can be occasioned by fresh water, when in a state of rest. This opinion would seem to acquire some support from the sea water, when partially applied, not occasioning rheums and colds.

SECTION

SECTION II.

ON WARM SEA-BATHING.

IT is a very general opinion, that warm water applied to the surface of the human body, universally weakens, and diminishes the force and action of the living muscular fibre; in a manner similar, though in much less degree, as it softens, and ultimately dissolves dead animal substance. And that this debilitating power acts, in proportion to the duration of its application. I believe the fact will be found by experience, not to be consonant to this opinion. From that experience I am warranted to say, that a warm bath heated from 90 to 100 degrees, on Farenheit's scale, does not relax the body, diminish
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the strength, or exhaust the spirits, after remaining in it from fifteen minutes to half an hour, and that in persons reduced, and greatly weakened by disease. On the contrary, they feel themselves refreshed, and their spirits better and more cheerful, than before they used it. Last season I directed the tepid bath every other morning for a lady in the last stage of a decline; and so much reduced by a great and long continued discharge from a psoas abscess, as to be barely able, with assistance to move from one room to another. She began the bath at 92 degrees, stayed in it at first fifteen minutes, and afterwards half an hour; and neither during the immersions, nor in the course of the day, found her strength or spirits in the least diminished; this was obvious to her friends and attendants. That she should think herself stronger and better, might proceed from that aptitude of persons in her melancholy situation, to seize with eagerness upon any new ground, on which to erect the flattering and pleasing superstructure

perstructure of hope, their only comfort. It was with a view of lessening the discharge and increasing its consistence, that I directed the tepid sea-bath, and at first I was disposed to flatter myself, not entirely without success; but the disease resisted every application, and in a few weeks terminated fatally.

Had it been the nature of the warm bath, to relax the body, and weaken the general strength, here was a fair opportunity of seeing the effect produced in the clearest manner.

The degree of warmth I have mentioned, probably acts upon the system as a sedative, but not so as to debilitate. It has appeared to me principally to affect the lymphatic system, invigorating and increasing its power of absorption. In the cases which will hereafter be offered to the reader's consideration, it evidently acted in this way.

I am disposed to think it is a new prac-

tice, to order patients with œdematos affections all over the body, and the appearance of a beginning anasarca, into the warm bath; the cases of this kind in which it has succeeded, I trust will convince the reader, not only of its propriety but justify his applying it in future, with the same intention.

Sometimes, on first using, the bath occasions a troublesome itching, tingling, and glowing heat on the surface of the body; but these rarely continue after the second immersion.

The general effect of warm bathing is feeling light and cheerful, without any increase of heat or other inconvenience; but on some, it has been observed to occasion head-ach, heat, and a difficulty of breathing, restlessness, and disturbed sleep. When these symptoms occur, they sufficiently indicate the impropriety of its repetition.

In all cases where the indication is to
increase

increase the power of the absorbents, as in the very early stages of dropsy, in hydrothorax, hydrocephalus, œdematous swellings of the legs, enlargement of the ovaria, &c. I think the warm salt water bath may be tried, with a reasonable prospect of success. I usually direct friction to be used whilst in the water, to such a degree, as can be born with perfect ease, always upwards in the direction of the lymphatics; for these vessels sometimes lying superficial, by this method the fluid is propelled, which is not so effectually done in the old way of rubbing up and down: Whoever attends to this circumstance, trifling as it may appear, will not find his time thrown away.

SECTION III.

GENERAL DEBILITY.

IN cases of general weakness, whether the consequence of previous illness, intemperance, or any other irregularity; before sea-bathing is attempted, it should be considered, if there is sufficient strength remaining in the constitution, to bear the shock of the water, and produce the reaction; if there is not, bathing will augment the debility, and render it more difficult to be relieved. If it is determined in the affirmative; the first passages should be emptied, by such medicines as are adapted to the leading symptoms. After this has been done, and exercise taken in the sea air for a few days, I usually

ally direct them to go into the tepid bath at 94 degrees, to remain there half an hour, and have their limbs well rubbed during the immersion. This may be done at such time of the day, as shall be most convenient; there being no intention of inducing perspiration, additional cloathing, or immediately going to bed, is not necessary; only to avoid being exposed to the cold wind, rain or moisture. By this means in the course of a week or two, persons in such circumstances may use the cold sea-bath with success. At first they should go in only twice a week and then every other morning, either before or after breakfast, as may be most adviseable. During the course of bathing, such medicines as are thought proper may be taken; exercise on horseback, or behind a servant is peculiarly applicable, as it keeps them in the open air, and does not fatigue or exhaust the spirits.

Delicate weakly women, who may have suffered from miscarriages, and the train

train of complaints in consequence, will not be disappointed in their expectation of relief from sea-bathing; observing the usual precautions, it commonly produces manifest and permanent benefit. Those who have frequently experienced this accident, should continue the use of the cold water till their pregnancy is far advanced; provided it can be done without any alarm, and is in itself perfectly agreeable to their feelings.

SECTION

SECTION IV.

SCROPHULA.

SINCE the time when Dr. Russel recommended sea-bathing and the application of alga marina in this obstinate disease; those affected with it, have been constant attendants at the sea side. I have known great numbers bathe for several months, and years continuance, but with little, very little effect upon the particular complaint, or diseased part; so far as it mends the general health, it is of service, but I speak of curing the disease, of which I have rarely seen an instance. It has been observed that scrophulous tumours about the neck, when not very large

large, sensibly diminish by the use of the warm sea-bath; but the difficulty of persuading patients to persevere in this process, is very considerable, because the universal opinion is, that bathing in the sea is a specific in the scrophula. Nothing but a strong sense of that duty which every man owes the public, who presumes to offer information, could have prevailed on me to subtract, however little, from the balm of hope enjoyed by persons in that distressing situation.

A considerable advantage attending the use of the warm bath, is, that any medicine, however active or powerful, and from such only we can reasonably expect relief, may be taken safely, and without interruption, which cannot be done when they bathe in the sea. The chief seat of this disease being in the lymphatic glands; if the warm sea-bath acts upon that system, by increasing the power of absorption, as I have supposed, may not much benefit be expected from persevering in its use for a length of time?

Perhaps,

Perhaps, among all the means which art employs in the cure of chronic diseases, none is so powerful as abstinence, if to a certain extent, and continued a sufficient time. It affords greater and more salutary effects, than any class of medicines we are acquainted with. The case of Wood, the miller, of Billirica in Essex, that was published some years ago, from high medical authority; and another instance that has lately happened, well known to many, are so extraordinary, that nothing could make them credible, but the incontrovertible evidence with which they are accompanied. A gentleman of great respectability in the mercantile world, who weighed thirty-four stone nine pounds, put himself upon a strict diet of four ounces of animal food, six ounces of bread, and two pounds of fluid in twenty-four hours. In one week he lost thirty pounds weight; and in six months was diminished the astonishing quantity of one hundred and thirty-four pounds; his health and spirits were greatly improved, and consider-

ing his remaining size, was very active.^a The chief of this consumption was performed by the absorbent system, with the powers of which we have of late become better acquainted.

It has often occurred to me, that a plan of this kind might have a good effect in scrophula, if pursued a sufficient time, and with a similar degree of strictness; in aid of which the warm bath would be very properly applied. Indeed, when there is a sufficient degree of strength in the constitution, I imagine there are few chronic diseases, the cancer not excepted, that could resist such a course, pursued with unremitting constancy.

"*Solaque abstinentia sine ullo periculo medeatur.*"^b

If sea air and sea water, were really so efficacious in this disease, as we are taught to believe, and as the public opinion declares; we might expect that the inha-

^a I had this account from himself August 27th, 1791; and at Christmas last, I saw him rather improved in health, and not apparently increased in size.

^b Cels. lib. iii. cap. 2.

bitants of sea-port towns, would be, at least, exempt from its ravages : On the contrary, we are informed by an ingenious author on this subject^a that the inhabitants of some such places are peculiarly obnoxious to it.^b Where any amendment has appeared, it probably was produced by the alteration in the general health; from air and exercise, increasing the appetite, and aiding digestion in a remarkable manner.

If from the use of the warm bath, or any other means, the disease should be considerably reduced ; the cold bath may then be attempted with a prospect of increasing the powers of the system, and confirming the health.

I have not observed any amendment or diminution in scrophulous swell-

^a Observations on scrophulous affections. R. Hamilton, M.D. 1791.

^b Although the instance alluded to, appears to be influenced in some respects, by local causes, yet it proves that sea-air and sea-bathing are not specific in this disease.

lings from the application of the so much celebrated alga marina. Indeed, it is not to be expected, that the viscid juice contained in the pods of that marine plant, should be taken up by the absorbents on the skin, or have any influence on the indolent tumors.

In this, as in many other external applications, when relief has been experienced, it has probably been produced by the repeated frictions.

Sea-water is universally drank by persons afflicted with this complaint, under the impression of its being a deobstruent, pervading and scouring out obstructed glands. I have before observed, that it appears to have no effect but as a cathartic, and that not of the mildest kind; a small portion of purging salt would answer equally well, and with greater certainty. However, I am disposed to believe, that a constant irritation kept up, on the intestines, has a tendency, by increasing absorption, to diminish glandular

lar swellings; and probably a continued use of sea-water, may have some effect in this way. If it should be preferred to any other purgative, I have no objection to its being taken; only, let me caution the patient not to be disappointed, if his relief is not in proportion to his expectation.

Trifling causes sometimes produce considerable effects. Scrophulous swellings, not large, or suppurated, if stroked gently with the hand, so as to give no uneasiness, in the direction of the fluid in the lymphatic, often in a day, will frequently be diminished, and sometimes entirely dispersed. If it is within reach of the patient, their own hand is the most proper.

As in scrophulous habits, it is very common for the glands of the mesentry, and other internal parts, to be affected in various degrees; it will be highly necessary to attend to these, previous to their using the cold sea-bath.

Stimulus to a cold bath is sufficient and may be continued to reduces or bathes the blood if the heat and air or water on which it evaporates.
SECTION V. eruptions and itch and other affections of the skin
ERUPTIONS.

ERUPTIONS on the surface of the body are so numerous and indistinctly defined, that it will be difficult to mark those, in which cold bathing promises relief. It will be rather easier to say, in which the application is improper.

In every species of erysipelas and herpes, as they more or less partake of inflammation, cold bathing is upon no consideration to be attempted.

In the itch, I have not observed it produce any amendment.

In

In the leprosy, dry or moist, I have not had an opportunity of seeing its effects; but apprehend, more is to be expected from the warm sea-bath.

In the small eruptions with inflamed basis, that break out all over the body, and itch so much as to prevent sleep, I have seen the cold bath tried without relief. In a case of this kind, where the cold sea had been used a fortnight, the itching was greatly increased; the warm bath gave immediate relief, and in a short time intirely removed the complaint.

Young people of both sexes, from fourteen to twenty years of age, are subject to eruptions of pimples in the face, sometimes, though rarely, on the breast, but not on any other part of the body; it is attended with no uneasiness, but the appearance is disagreeable and disgusting. A young lady had this complaint to a violent degree, her face being covered with a small red eruption; the cold bath had been pursued for several weeks,

weeks, and she had taken in that time a large quantity of alterative diet drink, without the smallest benefit; by the use of the warm sea-bath for a fortnight, with some internal medicines, the eruption disappeared, leaving only stains on the skin, which vanished in a short time.

In the dry red scurfy eruption, without itching, commonly called scorbutic; that breaks out principally on the hands, in spots of various dimensions, from the size of a barley-corn, to that of a shilling, and even larger; which usually appears in the spring and autumn, in persons of middle and advanced age. The warm bath generally succeeds in removing the complaint, and then the cold water may be used with propriety. This kind of eruption, is very apt to return every spring and autumn, and sometimes continues through life; in such cases, all that art can do, is to moderate its violence, and shorten the duration of its period.

SECTION

SECTION VI.**INTERMITTENT FEVERS.**

WHEN the constitution has been greatly reduced by the long continuance, or frequent recurrence of intermittent complaints, the cold sea-bath will be attended with considerable relief, aided by moderate exercise in the open air. We very frequently find, when disorders of this kind have continued long, that the abdominal viscera are more or less diseased, which requires particular attention. When the surface of the body, and the eyes are slightly tinged with yellow, and the urine is high coloured, there is great reason to suspect obstructions in the liver and billi-

ary vessels. Until these symptoms are removed by proper applications, and the use of the warm bath, if it should be indicated, the patient must not venture on cold bathing. In our general practice we find, that when intermittents resist the usual means of cure, there is reason to suspect that the liver, or other internal parts are disordered; at least, by giving medicines with this intention, the disorder yields to tonics, which before only afforded a temporary relief. If the lower extremities are œdematos, which is not uncommon in long continued quartans, the warm sea-bath will be found an effectual remedy.

SECTION

After gradually recovering strength, he has again
joined upon a course of life not only in
the sea air, which is indeed the
best no but **SECTION VII.**

GOUT AND RHEUMATISM.

IN the first of these diseases, it will be unnecessary to say, cold bathing should only be used in the intervals of the fits. When the strength and appetite have been much impaired, the sea air will be found an excellent restorative, even when the constitution is much broken: But bathing requires great caution; especially not to begin, till some weeks after the termination of the fit, and when there is no remains of pain in the limbs; for when used too soon, the pain is very apt to return, and harass the patient, without fixing on any particular part.

In the irregular or wandering gout, riding and such exercise as can be taken in the sea air, will be found a good tonic; but in bathing there is danger, lest the gouty matter should be repelled on the stomach, or some internal part. If there is sufficient strength, and when there is no pain present, the cold bath appears a proper application to strengthen the habit, by increasing the energy of the system. In either case, attention should constantly be paid, to the alvine discharge.

In the chronic rheumatism, when there are no symptoms of fever, the foregoing observations will apply with equal propriety. The patient should not be persuaded to go into the sea, except during the period of perfect ease. When there is any pain in the limbs or back, wandering and frequently recurring in the night; although cold bathing is often advised in such cases, yet the practice will be found by experience, to be very hazardous: For by the action of the cold water, the pain is sometimes fixed, especially in the loins.

loins. This effect may not take place immediately; but in a short time after bathing, the pain, in several instances, has returned with aggravated violence.

In these complaints, the warm sea-water bath will very frequently afford considerable relief; especially when the muscles are rigid or contracted; and when the joints are enlarged, and their motion impeded.

SECTION

SECTION VIII.

INFLAMMATORY COMPLAINTS.

I HAVE observed with few exceptions, that persons who by their particular habit of body, are subject to disorders of an inflammatory nature, do not find cold bathing agree with them, or at least, it is not attended with benefit. In some, a disagreeable eruption succeeds, of long continuance and troublesome to remove. This would seem to support the idea, of the manner in which cold bathing acts on the human body, mentioned in the first section; by increasing the energy of the system, which is not deficient in constitutions of this description.

When

When these complaints are present, it ought not to be attempted; even in weak and inflamed eyes, which is commonly local, although excited by affections of the general habit, it is seldom, when long continued, attended with benefit, and in some cases has evidently aggravated the symptoms.

It is scarcely necessary to enter a caveat against sea-bathing in every stage and species of Phthisis Pulmonalis; and yet as bark and animal food have been recommended, cold bathing would only be following up the intention. In my opinion they are equally improper, and if persisted in, the consequence will be evident to the slightest observation.

In every complaint of the breast, attended with pain, cough, spitting of blood, asthma or difficulty of breathing, however strongly sea-bathing may be recommended on the idea of strengthening the habit, I must protest against its admission. In the advanced period of the summer,
when

when the easterly winds no longer blow, relief may be found in many of these affections, from exercise in the sea air, or from sailing, where it can be done with perfect ease. At other times of the year, Devonshire and Cornwall, afford many stations where the air is soft, and better adapted to diseases of the lungs. But having treated so fully on this subject, in a former work, it is unnecessary to enlarge further on it here.^a

^a *Essay on Phthisis Pulmonalis*, 2d Edition.

SECTION

SECTION IX.

CHLOROSIS.

YOUNG women after the age of thirteen or fourteen are, from the change taking place in their constitution, very apt to become unhealthy. They lose their colour, are pale, languid and not disposed to motion; their flesh, strength and spirits decay. They have nausea, sometimes pain at the stomach, with little appetite, and that irregular. On using exercise they are soon tired and complain of pain in their back and loins; their lower limbs frequently become oedematous towards night, and not always subsiding in the morning. The alvine discharge is irregular, sluggish, and generally confined.

G

In

In no complaint whatever, is cold sea-bathing so universally recommended, as in this; and very often with the wished for success; the sea air and moderate exercise being peculiarly adapted to such cases. Here it is extremely necessary to observe the caution so often repeated, whether there is a sufficient degree of strength in the system to bear the action of the water; for of the many cases of this kind, that has passed under my notice, it may be with truth affirmed, that scarcely half of them have been relieved by cold sea-bathing, even when continued a considerable time.^a When the strength is much reduced, bathing is not adviseable for the reasons already given when treating of debility; the energy of the system being

^a Last summer Miss M—— was brought from Margate for my advice. She was full grown at eighteen, and had never been regular. Was pale and languid, her lower limbs œdematos, and although so weak as to be incapable of walking from the machine, had for some time used cold sea-bathing. Her tongue was yellow and foul, sickness and pain at the stomach, with loss of appetite. By pursuing the plan here recommended, in a short time the symptoms abated, and there was every appearance of returning health.

insufficient

insufficient to produce the re-action, will consequently be diminished.

Observing the inefficacy of the usual treatment; for some years I have directed a different course, with more success: acting in a gentle manner on the stomach and bowels, by bitter cathartics, joined with small doses of calomel, so as properly to regulate the evacuation. Making them vomit in the morning fasting, once or twice a week, not only has an effect on the secretion of the stomach, but by the agitation, increases the powers of the *vis vitæ*. At the same time the tepid bath is used every day, or three times a week, with easy frictions in the direction of the lymphatics during the immersion. Exercise on horse-back proportionate to their strength, moderate dancing, and cheerful company are very conducive to returning health; and to that change which is naturally, and ought to be, patiently, expected. To this plan may be connected such tonics as may be adviseable: when they have by these

means acquired a considerable degree of strength, when the œdematous appearances are removed, then, and not till then, the cold sea-bath may be attempted with a prospect of success; but should not be continued, unless the warm glow regularly succeeds.

As cold bathing is very generally esteemed a luxury; young people, if not carefully attended, sometimes indulge themselves to their prejudice. They not only use it too frequently; but in warm weather, are apt to remain longer in the sea than they should do; thereby weakening the first impression on the habit, and preventing the benefit they might reasonably expect.

SECTION

SECTION X.

OEDEMATOUS AFFECTIONS.

IN my observations on the subject of the last section, I slightly mentioned the œdematosus swelling of the lower limbs ; but, although very generally accompanying that state of health, is not necessarily occasioned by it. On the other hand, obstruction is a general symptom attending œdematosus affections, as it is of every disease inducing a certain degree of debility. In these it is a consequence of the particular complaint ; in the former it is the proximate cause, or closely connected with it.

If there should appear any novelty in the observations I have here presumed to lay before

before the public; perhaps it will be found in the application of the warm-bath to complaints of the kind now under consideration; as far as my reading or experience has gone, I do not remember its having been directed in weakened and reduced constitutions with œdematos swellings of the lower limbs. The cases of this kind, in which it has been used, are indeed not numerous, but they have been attended with uniform success. The following, it is hoped, will appear decisive as to its effects, and justify future trials, to confirm or refute the practice.

In the summer of 1790, I was desired to see Eliz. P_____ aged about twenty; naturally of a weak constitution, and had been considerably reduced some time before by a profluvinum mensium. Her face was pale and bloated, her lower limbs considerably swelled, retaining the impression of the finger, and not intirely subsiding after a night's rest; pain and sickness at her stomach, with little appetite. Her strength was so much diminished

as

as to oblige her to quit her service several weeks before. The usual medicines had been very properly directed, and she had used the cold sea-bath, but without the smallest abatement of the symptoms; indeed the swelling of her limbs rather increased. I repeated the tonic medicines in a different form, with ferrum vitriolatum, myrrh, zincum vitriolatum, &c. vomited her in the morning occasionally, and interposed cathartics, and diuretics, without the smallest alteration for the better. She was then ordered to use the warm sea-water bath, heated to 94 deg. to remain in it half an hour, and be constantly rubbed with a flesh-brush or flannel, in the direction of the lymphatics, during the immersion. When she came out of the bath, her spirits were rather mended, and next morning there was a sensible diminution of the swelling. She repeated the bathing four or five times in a fortnight, when the œdematosus swellings were entirely gone, and excepting her strength not being perfectly restored, she thought herself well. The cold sea-bath
was

was then used, which completed the cure; and she has remained well ever since, without the least return of the swelling.

In the same season I was consulted for a young woman about the same age. She was œdematos all over her body, not excepting her face; the abdomen rather fuller than natural, and she made less urine than usual; so that there was every appearance of incipient anasarca. She had not been regular for some time: repeated vomits and purges had been administered, and she had taken the medicines usually given in such complaints. The success in the former case was so evident, that I did not hesitate to order her into the warm bath; but the prejudice against warm water in complaints of this kind, was so strong in her friends, that it was with the greatest difficulty I persuaded them to consent; and that was not accomplished till they had seen, and examined Elizabeth P—, and heard the account of her recovery from her own mouth. This young person used the bath but

but three or four times in a fortnight, when the œdematos swellings were entirely removed, and she had no complaint, but want of strength. She bathed in the sea three times a week, and remained well; recovering her usual colour and healthy countenance.

In the next season, a sister of P— was in a similar situation, but not to the same extent; she was chlorotic. The same plan was pursued, with equal benefit.

The effect of the warm sea-bath, in these instances, was evidently, invigorating the lymphatic system, and increasing its power of absorption. Tonics, purgatives, vomits, diuretics, and the cold bath, had been judiciously directed before; and by Eliz. P—— for the space of some weeks; without any abatement of the symptoms. I had no doubt of the complaints being removed. solely by the warm bath; as in the first case, no medicine was taken during its use, nor afterwards,

wards, except such as was necessary to regulate the alvine discharge.

I have in many cases of swellings, in the ancles and legs, in delicate weakly women; recommended partial warm bathing, with general success; and where sea-water could not be procured, have ordered a sufficient quantity of salt to be added to the water. Frictions should be used in the morning, when the swelling is nearly gone down; for in the evening, when the parts are very tense and shining, it rarely does any good, and always makes the part tender.

SECTION

SECTION XI.

BATHING CHILDREN.

THE custom of bathing children in cold water from early infancy, is becoming more and more general; and is certainly very conducive to health, not only on the score of cleanliness, but in strengthening the constitution; and rendering them less susceptible to the great and sudden changes in the atmosphere. When it is intended to bathe children in the sea, on account of health, particularly when young; it is of essential concern to observe whether their belly is larger and fuller than natural; or any signs of obstruction or enlargement of the mesenteric or other glands. These affections are very common

mon, and too often unobserved, or not attended to, by those who have the care of the rising generation.

When these symptoms are perceived, repeated doses of Calomel should be given at bed-time, purging it off gently, the following morning, with infusion of Senna. The latter would of itself purge sufficiently; but would neither cleanse the intestines of confined putrid matter, hardened fæcæs, mucus, worms, &c. nor act upon the obstructed glands. The difference between the operation of Calomel and any common purgative, will be easily perceived in the foeteor of the discharge. It is an effectual remedy, safe and easy in its operation; and no bad consequence can attend the frequent exhibition, provided the child is guarded against cold and wet, the succeeding day.

If their appetite is diminished, or the stomach appears disordered; let them be vomited gently in the morning fasting with Pulv. Ipecac. and repeated as may

be

be necessary. After having pursued this course for a week or two, and their belly is sufficiently reduced; should there still appear signs of glandular obstruction in the habit; any small tumors about the neck, or under the chin; it will be advisable to put them three or four times into the tepid bath of sea water, heated to 92 degrees; and then it is probable, they may pursue cold bathing with the desired success.

In rickety children, when the bones at the articulations are enlarged, the belly distended, the countenance pale, the appetite irregular, with langour and inaptitude to motion, great caution is necessary in the application of the cold bath. I have rarely seen them receive much benefit from it, in the advanced stage of this disease; and when it does not succeed, it infallibly debilitates, and renders the symptoms more obstinate. After having attended to the stomach and bowels, as before directed; the warm bath with moderate frictions should be persisted in for

for some time; or till the complaint is considerably abated, the appetite, strength, and spirits improved; and an appearance of returning health in the countenance, which is easier perceived than described.

When these changes have taken place in the constitution, the cold sea-bath may be attempted; but if after two or three times, the warm glow does not succeed; it must be abandoned, and recourse had again to the tepid bath three or four times a week.

Exercise in such a manner as may be pleasant and not fatiguing, is absolutely necessary; it being a criterion of the disease, when these little people, contrary to their nature, do not wish to move about; but would sit in their chair all the day, if left to their own will. When too young to ride on horseback, which is of all others the most salutary exercise; a swing in the open air is not a bad substitute, and at the same time agreeably amuses their minds, which should never be neglected.

In

In rainy weather when confined to the house, a chamber horse, or a chair set upon a long board loosely supported at each end, may be moved up and down by a servant.

Sailing on the sea, in fine weather, is an agreeable amusement; and will be found in this, and most other cases, attended with debility, to assist, in restoring health. The sickness, to which people, unaccustomed to the sea, are in general subject, is of all others, the most distressing while it continues; but more effectually acts upon the stomach and billiary vessels, than any means which art could venture to employ.

SECTION

ON THE SEASIDE, IN THE COUNTRY, OR
IN THE CITY.

SECTION XII.

NERVOUS COMPLAINTS.

THERE is no class of diseases, in which the effects of sea-bathing is more conspicuously beneficial, than in that termed nervous, from whatever cause proceeding. For independent of the immediate action of the water; the novelty of the surrounding objects, the pleasant walks and rides, the clearness and elasticity of the air, and above all, the change of scene; the leaving persons and situations, where much distress may have been suffered, and to which ideas of sorrow are constantly associated. All these circumstances, separately or combined, give a new colour to

to their perceptions, relieve the mind from its heavy load of oppression, and sooth the irritated nerves into peace and complacency. These effects are beyond the power of medicine, and above the strength of the distressed sufferer; for although, in many cases, the patient may, and ought "to minister to themselves," yet when the mind is deeply tinctured with grief, sorrow, anxiety, or any other jarring passion; next to time, the soother of every sorrow, change of scene produces the greatest relief.

From the wonderful conformation of our frame, the mind and body mutually sympathize and act upon each other. A long continuance of grief and anxiety, occasions disorders in the abdominal viscera, especially the liver; and when these symptoms are produced by a sedentary life, or other causes independent of the mind; the nervous system will be generally disordered; its sensibility and irritability morbidly increased; and a train of symptoms ensue, as numerous and various,

ous, as difficult to be described, or ration-
ally accounted for.

In every species of nervous complaint, it is particularly necessary to pay attention to the state of the stomach and bowels; the former is commonly found disordered, with a prevailing acid; sometimes extremely sharp, from an impaired secretion of the natural juices; and which is best relieved by vomiting. The intestinal discharge, for the most part, is irregular; in some, obstinately costive, in others the contrary extreme; occasioned probably by a deficiency in the quantity or quality of the bile. In some it may be supposed, that a sufficient quantity of bile is not secreted, from their labouring under some morbid affection of the liver. This is to be suspected, when with obstinate costiveness, the surface of the body is pale, the urine limpid, and neither tinged with yellow.

Before using the cold bath, it is necessary that these symptoms should be removed,

moved, or greatly mitigated ; and this may be done by the use of calomel, bitter cathartics, &c. but given in doses that may operate moderately, as purging infallibly impairs the strength, and increases the general debility.

There is no doubt, that many people afflicted with these complaints, every season go into the sea, without observing any precaution, or using any preparation : but it is well known, that many of these, do not receive any benefit from the bathing ; and that others find their symptoms augmented, and rendered more intractable.

The mind should be kept as easy, and quiet as possible ; amusement, cheerful company, and whatever may prevent painful and anxious thinking, contribute much to the return of health. Exercise in the open air should never be neglected, particularly on horse-back, always guarding against fatigue. And this requires more attention than is usually thought necessary ; for persons in this way, are apt

to have their spirits, at times, so much elevated, as for the moment to forget all their complaints, and think themselves up to any thing ; but the langour and debility they experience the next morning, convince them, they are not the heroines they thought themselves. Dancing is a good and salutary exercise ; at the same time the body is exercised, the mind is exhilarated, and chearfully amused ; but it is very difficult to avoid excess.

Let it always be kept in mind, that exercise carried beyond the proper bounds, becomes labour ; and labour fatigues the body, and enervates the mind.

To persons unaccustomed to bathing, there is something alarming, in being plunged into a great body of cold water ; but even in the most reluctant, a short time usually, not only familiarizes them to its use, but they find it highly pleasant and agreeable. Should timidity come in aid of the water, and prevent the glowing warmth so necessary to its being beneficial ;

cial ; some slight aromatic medicine, peppermint lozenges, spirit of lavender, or a few drops of any volatile spirit may be taken upon coming out of the water ; but cordials and spicy medicines are seldom if ever adviseable. If chillness continues from a deficiency of strength in the habit ; bathing is improper, or at least will not be attended with benefit, and therefore ought not to be continued ; and if only from fear, and the first effect of the cold water ; these trifling remedies are sufficient, as after a few immersions they will not be wanted.

In slight paralytic affections, sea-bathing very frequently produces much benefit, when used proportionate to the strength. In confirmed palsey, it should not be applied, till there is evident signs of amendment. The warm bath from 95 to 110 degrees, with acrid frictions, is better adapted to such cases.

In epilepsy, when the disease has continued long; seldom any abatement of the

the fits, either in frequency or violence ensues from sea-bathing, even when persisted in for a whole season. When it is used, great caution is necessary lest the patient should be seized in the water, and in a few minutes perish. In slight cases in either sex, before the period of puberty; by strengthening the constitution, it may assist nature in surmounting the disease when that period arrives; and which we frequently find, proves a perfect cure.

Hysterical and hypocondriacal affections, come under the general denomination of nervous; and only require greater attention to the remote causes.

Cold sea-bathing, is well adapted to relieve, those irregular convulsive motions, termed Saint Vituses dance. Observing the general caution; and paying attention to the stomach and bowels; the complaint seldom proves obstinate.

In

In giddiness and various affections of the head, sea-bathing has been found beneficial; attention being always had to the proximate cause. But should the giddiness be accompanied with pain, increased on motion; any signs of plethora in the habit, or symptoms of hydrocephalus; it must on no account be ventured upon. There is not any complaint the human body is subject to, in which such mature deliberation is absolutely necessary respecting cold bathing, as in disorders of the head; for should it be improperly applied, the consequences may be irreparable, and even fatal.

Complaints in the stomach and bowels are so various in themselves; depending upon very different causes, and connected with other diseases; that I cannot venture to give any general directions for sea-bathing.

In the course of my attendance at the sea-side, not having had an opportunity of seeing any person supposed to have been

been bitten by a mad animal; I cannot speak on that head from experience, and it is of too great importance to draw any conclusion from analogy. The very great difficulty, and frequent impossibility of discovering if the animal had really been mad; has thrown a great degree of uncertainty upon every remedy that has hitherto been recommended. And the case published by a late eminent physician; has brought into doubt, the efficacy of a nostrum that has been very generally trusted to.^a In a disease so dreadful and fatal, any fact well authenticated may have its use. In the following instance, the only one that has ever occurred in my practice, the madness of the animal would seem to be placed beyond a doubt. A man, a woman, and several dogs, were bitten by a supposed mad dog, who was soon after destroyed. A fortnight after the accident I saw them. The woman was slightly wounded in the middle finger; a black scab re-

^a Dr. Fothergill on the Ormskirk Medicine.

mained

mained on the puncture. She had great pain in the arm, shooting up to her head, particularly in the night; with disturbed and alarming dreams, and great depression of spirits: the man had been bitten in the hand also, but had not so much pain. I directed Mercury for them, in the manner published by Dr. James. In a few days the symptoms abated, and as the woman's mouth was sore, she desisted from using it. Very soon, the pain returned, greatly augmented; and affected her head with pain and giddiness. She resumed the medicine, and every symptom vanished; they both remained perfectly well.

The same medicine was given to the dogs; but by some accident, one of them was forgotten, and took none; he became raving mad the thirtieth day, and in that state, I saw him shot. After he was dead, a piece of flesh was rubbed about his mouth, which another dog eat readily. All the other dogs remained well, except a small lap-dog, who died of the

salivation. It is upwards of twenty years since; and if any return of the disease had happened, I should immediately have been informed. It should be observed, that neither the man, or woman, supposed the dog to have been mad, until they began to take the medicine; the mind therefore had no influence, in producing the symptoms that ensued.

To those who bathe in the sea for pleasure, independent of health; cautions and directions, may appear superfluous, and unnecessary; but it is proper to impress upon their minds; that very many accidents have been occasioned by going into cold water, when the body has been heated or otherwise disordered; fevers, headaches, vertigo's, and apoplexy, have been the consequence. To avoid the chance of suffering in this way; let them, when they first begin bathing, follow the general directions, respecting their stomach and bowels. Let them go into the water early in the morning; or if at any other time of the day, it should be at such

such a distance from having taken food, that the process of digestion may be finished; it being at all times dangerous to bathe with a full stomach. On feeling the least sensation of internal cold, or chilliness; they should immediately come out of the water, and use moderate exercise.

As the only motive I had for publishing these observations, was, their proving useful, not only to the younger part of the profession, but to the public at large; I have avoided, as much as was consistent with the subject, all theoretical reasoning on the action of cold bathing upon the body; and the effects it may produce on diseases; confining myself strictly to what I have seen in the course of my attendance at the sea-side; and to such facts, as have arisen immediately in my own practice.

Meaning this should be merely a Vade Mecum for persons intending to use sea-bathing; directing them what they should do; what they should not do; and caution-

ing them against the consequences of acting improperly: I have entered no farther into the nature of the different diseases, or their medical treatment, than what appeared to be immediately connected with hot or cold bathing; and for the reasons hinted before, I have avoided giving any formulæ.

What information the reader may have received from the perusal of this slight performance, becomes not me to estimate; but he may safely depend upon the fidelity with which the subject has been treated; without exaggeration; without drawing conclusions which the premises would not fairly bear. I shall no longer trespass upon his time; only to press again the caution so often repeated; never to begin cold bathing, without previously emptying the first passages; nor to persist in it, on any account, whatsoever, when the warm glow does not immediately succeed the immersion.

APPENDIX.

RAMSGATE is a clean, pleasant village; situated in the bosom of the cliff, on the south-east side of the Isle of Thanet, in the county of Kent; eighteen miles from Canterbury, and seventy-four distant from the metropolis. The Pier erected at a great expence; whether considered for the excellence of its structure, or the incalculable benefit it is of to commerce; is unequalled in England, and perhaps in Europe. It extends in a curved line, about six hundred and sixty yards; and being much frequented in the season, the company may be said, literally to walk in the sea. The bathing here is perfectly safe

safe and convenient; secured from every nuisance issuing from the town, by the projection of the pier; and of late years, some improvements have been made at the bathing ground, for the accommodation of the company, while waiting for their machines. The warm sea-baths, that have been constructed at a liberal expence, are well contrived; and conducted with great attention, by the Proprietor.

The water, near the sea, in general, is not good; partaking of sea salt and limestone; but there are pumps of pure, and good water, that are commonly used; of this I may venture to speak with some confidence; as it is the only liquor I drink.

The new buildings on the east and west cliff, are pleasantly situated, especially the former called Albion Place; built on an eminence, immediately over the bathing-place, in the form of half a square, cut diagonally. The situation and views, are superior to any I have ever seen; with

with the exception, perhaps, of some part of Mount Edgcumbe in Devonshire. In the foreground of this extensive picture, is the harbour, with the shipping; the pier; the open sea, generally covered with vessels of every description; conveying the commerce, or maintaining the dignity of this country, in every part of the known world. At the distance of seven miles, stretches the Goodwin Sand; which in stormy weather, makes the spectator shudder, for the safety of the adventurous mariner. To the right we view that part of Thanet leading to Pegwell Bay; the high cultivated land of East Kent, terminated by Deal and the Downs; where more or less of a fleet, is always riding at anchor; especially in these times of war and tumult.

The whole of this scene is bounded by a distinct, though distant view of the coast of France; softened down by the intervention, of thirty miles of atmosphere; it is left therefore, to the mind's eye to perceive, the atrocious deeds of a people

people, divested of religion; and emancipated from law!^a

The Isle of Thanet, open and uninclosed; consists chiefly of chalk, covered by a thin stratum of mold, not very rich. The inhabitants; many of whom are a remnant of that respectable body of men, the Yeomanry of England; have an excellent method of agriculture, clean, and peculiarly neat; and although the appearance of the land is not of great promise; yet, by the judicious management of seaweed sand, &c. it produces abundant crops. From the nature of the soil, I am disposed to think the air, to many constitutions, very healthy; as the chalk, may render the atmosphere more pure. Perhaps after perusing the following account

^a LONG! VERY LONG! MAY THEIR PERNICIOUS PRINCIPLES BE KEPT AT AN EQUAL DISTANCE WITH THEIR POLLUTED SOIL; THAT THIS KINGDOM, HAPPILY SURROUNDED WITH HER WATERY ZONE; STRONG, BY INTERNAL PEACE, EQUITY AND JUSTICE; MAY REMAIN FREE FROM THE CALAMITIES, THAT HAVE DELUGED WITH BLOOD, THE NEIGHBOURING NATIONS; SECURE IN HER INVINCIBLE NAVY; THE GLORY OF BRITAIN, THE ENVY OF THE WORLD.

of a very singular fact, the reader may be of the same opinion.

A gentleman of undoubted veracity, informed me; that when labouring under a severe attack of spasmodic asthma, in the month of August, when the weather was very hot; being in the neighbourhood of Park Place, near Henley; was supported by a friend into the garden; and to avoid the heat, went into a subterranean passage, cut through a hill composed of chalk and flints. He had not entered many yards, when he perceived his difficulty of breathing, considerably relieved, and very soon, intirely free and well; he ran backwards and forwards as in perfect health. After continuing there as long as his convenience permitted, he left the place; but had scarcely reached his horses, when he breathed with as much difficulty as before. He experienced a similar relief, but in a less degree, when sitting in a cave, cut out of the chalk at Ingerest in Kent.

Being very solicitous to discover, from what property in the air this singular relief had been produced; I went down to Park Place; and exposed a thermometer, an hygrometer, and electrical balls in the passage, but without material information. I brought up a bottle full of air, secured in the best manner; which was submitted, with the air from the cave at Ingerest, to various tests, without discovering any difference from common atmospheric air.^a

Some satisfaction I received from my journey, in observing that the gardener who attended me was asthmatic; and he owned, that he breathed better in the under-ground passage, than in the open air; and this upon his going out several times, that I might be convinced the relief was not imaginary.

I have submitted these facts to the reader, without any reasoning or com-

^a Bad and good air, sent from a distance, shew no difference from common air. Priestly, vol. iv. p. 269.

ment; only observing, that the quality of the air, whatever it might be, was certainly connected with the nature of the soil; and it may be presumed, that great bodies of chalk have an influence upon the atmosphere.

F I N I S.